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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/429,026 | 10/29/1999 | LUC DARTOIS | Q56457 | 5442 |

7590 09/05/2003

SUGHRUE MION ZINN MACPEAK & SEAS PLLC
2100 PENNSYLVANIA AVENUE N W
SUITE 800
WASHINGTON, DC 200373213

| EXAMINER |
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GHULAMALI, QUTBUDDIN

| ART UNIT | PAPER NUMBER |
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2631

DATE MAILED: 09/05/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/429,026

Applicant(s)

DARTOIS, LUC

Examiner

Qutub Ghulamali

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This office action is responsive to the amendment filed on 08/11/2003.
2. Applicant's arguments, see page 5, filed 08/11/2003, with respect to the rejection(s) of claim(s) 1, 4, 5, 7, 9, 12 and 2, 3, 8 under 35 USC 102 and 35 USC 103 respectively, have been fully considered and Finality of Action has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made necessitated by; Amendments to Claims 1,2,6,7,10,11 and addition of new claims 13, 14,15.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-10, 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Antonio et al (US Patent 6,600,792).

Antonio et al teaches (figs. 1,3,4), pre-distortion technique for high power amplifier (fig. 2), a CDMA system configured for use in accordance with the IS-95 standard, a conversion circuit 20 wherein the non-linearity in the HPA 28 is modeled as an amplitude-and-phase distortion that is a function of the instantaneous input-signal envelope, the pre-distortion function is continuously adapted to track changes in the non-linearity of the HPA 28 over time, the pre-distortion function is applied at digital base-band, is a function of the instantaneous signal

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envelop, the pre-distortion function is stored in the look-up table 44, which stores gain and phase values as a function of the input signal envelope, also, the base-band-to-RE-conversion circuit 20 includes the pre-distortion block 22 for applying pre-distortion to the input signal, an envelope calculation block 42, a pre-distortion lookup table 44, an update pre-distortion function 46, and a power measurement block 48 is coupled to the A/D converter 32, adjusting the set of digital pre-distortion parameters (values) based upon at least one previous ratio if current ratio is less than the at least one previous ratio, the pre-distortion parameters (values) includes gain (amplitude) parameters and phase parameters, (col. 4, lines 4-6, 22-67; col. 5, lines 1-14; col. 7, lines 2026; col. 8, lines 5-15; col. 12, lines 22-24; col. 18, lines 26-48; col. 19, lines 47-62).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al (US Patent 6,600,792) in view of Ostberg et al (US Patent 6,542,562).

As discussed in the above claims, Antonio et al teaches every aspect of the claimed invention, but does not teach transmitter comprising a coherent receiver. Ostberg et al, (col. 2, lines 60-65) teaches a coherent receiver in which the amplitude and phase of corrupted (distorted) channel for each symbol is determined in a CDMA environment with received signals are transmitted as CDMA signals. Therefore, it would have been

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obvious to one having ordinary skill in the art at the time the invention was made to modify Antonio et al to include coherent receiver for updating of pre-distortion values or coefficients in order to provide better adaptability as taught by Ostberg et al (col. 3 lines, 45-48, lines 63-66).

Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Whang et al (US Patent 6,609,008), Camp, Jr. et al (US Patent 6,590,940) provide information regarding predistortion techniques for high power amplifiers in a communication system.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (703) 305-7868. The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-4750.

QG.
August 27, 2003


DON N. VO
PRIMARY EXAMINER